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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/617,556	07/17/2000	Douglas P. Hart	MIT-04488	8301

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EXAMINER

BINDA, GREGORY JOHN

ART UNIT PAPER NUMBER

3679

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/617,556

Applicant(s)

HART ET AL.

Examiner

Greg Binda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 51-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 51-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on various is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Drawings

2. The drawings are objected to because in Fig. 7 an inappropriate cross hatching pattern is used to depict the face seal “made of elastomeric or thermoplastic material” recited at claim 51, line 2. See MPEP § 608.02 for the appropriate pattern.

3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The description at page 16 is objected to as failing to comply with 37 CFR 1.73 because it fails to refer to the different views by specifying the numbers of the figures and to the different parts by use of reference characters.

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).

The limitations, “protrusions extending outward from the [contact] surface” and “said second surface being substantially flat” in claim 51, lines 8-10 lack proper antecedent basis in the detailed description of the invention.

Claim Objections

6. Claim 51 is objected to because in line 5 a comma should be inserted after “outer peripheral edge”.

Claim Rejections - 35 USC § 112

7. Claim 51 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 51 is vague and indefinite because an open-ended transitional phrase, “comprising”, is used to introduce the *Markush* group “cylindrical, trapezoidal . . .”. The proper transitional phrase for introducing a *Markush* group is close-ended. See MPEP 2173.05(h).

Claim Rejections - 35 USC § 102

8. Claims 51 & 53-56 are rejected under 35 U.S.C. 102(b) as being anticipated by Grorich, US 3,973,781. Fig. 1c shows a seal assembly comprising a face seal made of elastomeric material (see also “rubber” in col. 11, line 7) comprising a unitary seal ring 15c bonded to a mounting ring 14c wherein the seal ring comprises a contact surface 1c with an inner peripheral edge K2 and an outer peripheral edge K1, the contact surface further comprising integral protrusions (see also “facets” in col. 11, line 38) disposed interior to the outer peripheral edge. Fig. 8 shows the seal assembly comprising a face seal 10 having the same features as the face seal 15c (see also col. 13, lines 26+) in combination with a flat second surface (see also “sliding surface” in col. 13, line 32) such that the protrusions come into contact with the flat surface to produce a seal having a region of intensified contact interior to the outer peripheral edge that redirects incoming dirt and debris away from the region of intensified contact.

Claim Rejections - 35 USC § 103

9. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grorich in view of McNickle et al, US 5,558,341 (McNickle). Grorich shows a seal assembly comprising all the limitations of the claim except Grorich does not expressly disclose the protrusions having recesses. In col. 2, line 43 through col. 3, line 15, McNickle teaches providing protrusions with recesses (see “each of the pads may have pocket” in col. 2, lines 48 & 49), provides a seal assembly with means for cooling and self-regulating its size (see col. 3, lines 5 & 12). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the

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seal assembly of Grorich by making the protrusions of the face seal with protrusions in order to provide the seal assembly with means for cooling and self-regulating its size as taught by McNickle.

Response to Arguments

10. Applicant's arguments filed December 29, 2004 and May 4, 2005 have been fully considered but they are not persuasive because they fail to address the prior art to Grorich and McNickle.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yanai et al shows a seal assembly.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (571) 272-7077. The examiner can normally be reached on M-F 9:30 am to 7:00 pm with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Greg Binda
Primary Examiner
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